


THE RELATIONSHIP BETWEEN FINANCIAL INTEGRATION AND FINANCIAL STABILITY: AN APPLICATION OF PANEL SMOOTH TRANSITION MODEL

Sufian Radwan Almanaseer^A



ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 20 February 2023</p> <p>Accepted 08 May 2023</p>	<p>Purpose: This research aims to determine the correlation between financial integration and financial stability and whether increasing financial integration leads to increased financial stability.</p> <p>Theoretical framework: The study investigates the effect of growing financial integrity on financial stability and the causal association between the two variables.</p>
<p>Keywords:</p> <p>Capital Flows; Financial INTEGRATION; Financial Stability; Inflation; Monetary Policy.</p> <div data-bbox="172 1003 480 1249" style="text-align: center;">  </div>	<p>Design/methodology/approach: The study uses an Autoregressive-Distributed Lag (ARDL) regression model with the help of least squares (OLS) regression to evaluate the relationship between financial integration and stability. This research work further employed a Panel Smooth Transition Model (PSTR) to determine the nonlinearity among two factors and investigated the entrance stage of financial boosting beyond which Total Factor Productivity (TFP) extension is possibly dampened.</p> <p>Findings: The results came forward with a positive impact of financial integrity on financial stability across many countries. Findings indicated that economic and financial integration is the primary channel to mediate the effect of monetary extremity in economies. Fiscal policy should seek measures to reduce the risk of crisis transfer and increase the benefits of financial integration to achieve financial stability.</p> <p>Research, Practical & Social implications: The study recommends considering financial integration for economic development and avoiding the occurrence of risk by considering a fiscal policy.</p> <p>Originality/value: The results highlight the sectors where financial integration is required. Moreover, establishment of subsidiary international bank in the resident economy with the local financial centre's loans has been emphasized.</p> <p>Doi: https://doi.org/10.26668/businessreview/2023.v8i5.1935</p>

A RELAÇÃO ENTRE INTEGRAÇÃO FINANCEIRA E ESTABILIDADE FINANCEIRA: UMA APLICAÇÃO DO MODELO DE TRANSIÇÃO SUAVE DO PAINEL

RESUMO

Objetivo: Esta pesquisa visa determinar a correlação entre integração financeira e estabilidade financeira e se o aumento da integração financeira leva ao aumento da estabilidade financeira.

Referencial teórico: O estudo investiga o efeito da crescente integridade financeira na estabilidade financeira e a associação causal entre as duas variáveis.

Desenho/metodologia/abordagem: O estudo usa um modelo de regressão Autorregressive-Distributed Lag (ARDL) com a ajuda de regressão de mínimos quadrados (OLS) para avaliar a relação entre integração financeira e estabilidade. Este trabalho de pesquisa empregou ainda um Modelo de Transição Suave de Painel (PSTR) para determinar a não linearidade entre dois fatores e investigou o estágio de entrada do impulso financeiro além do qual a extensão da Produtividade Total dos Fatores (TFP) é possivelmente atenuada.

Resultados: Os resultados apresentaram um impacto positivo da integridade financeira na estabilidade financeira em muitos países. Os resultados indicaram que a integração econômica e financeira é o principal canal para mediar

^A PhD in finance. Tafila Technical University. E-mail: sufian.r.manaseer@gmail.com

Orcid: <https://orcid.org/0000-0002-0457-0479>

o efeito do extremo monetário nas economias. A política fiscal deve buscar medidas para reduzir o risco de transferência da crise e aumentar os benefícios da integração financeira para alcançar a estabilidade financeira.

Pesquisa, implicações práticas e sociais: O estudo recomenda considerar a integração financeira para o desenvolvimento econômico e evitar a ocorrência de riscos ao considerar uma política fiscal.

Originalidade/valor: Os resultados destacam os setores onde a integração financeira é necessária. Além disso, foi enfatizado o estabelecimento de um banco internacional subsidiário na economia residente com os empréstimos do centro financeiro local.

Palavras-chave: Fluxos de Capitais, Integração Financeira, Estabilidade Financeira, Inflação, Política Monetária.

LA RELACIÓN ENTRE LA INTEGRACIÓN FINANCIERA Y LA ESTABILIDAD FINANCIERA: UNA APLICACIÓN DEL MODELO DE TRANSICIÓN SUAVE DEL PANEL

RESUMEN

Propósito: esta investigación tiene como objetivo determinar la correlación entre la integración financiera y la estabilidad financiera y si una mayor integración financiera conduce a una mayor estabilidad financiera.

Marco teórico: El estudio investiga el efecto de la creciente integridad financiera sobre la estabilidad financiera y la asociación causal entre las dos variables.

Diseño/metodología/enfoque: El estudio utiliza un modelo de regresión autorregresivo-retraso distribuido (ARDL) con la ayuda de la regresión de mínimos cuadrados (OLS) para evaluar la relación entre la integración financiera y la estabilidad. Este trabajo de investigación empleó además un modelo de transición suave de panel (PSTR) para determinar la no linealidad entre dos factores e investigó la etapa de entrada del impulso financiero más allá de la cual la extensión de la productividad total de los factores (TFP) posiblemente se vea amortiguada.

Hallazgos: Los resultados se presentaron con un impacto positivo de la integridad financiera en la estabilidad financiera en muchos países. Los resultados indicaron que la integración económica y financiera es el principal canal para mediar el efecto de la extrema política monetaria en las economías. La política fiscal debe buscar medidas para reducir el riesgo de transferencia de crisis y aumentar los beneficios de la integración financiera para lograr la estabilidad financiera.

Implicaciones de investigación, prácticas y sociales: el estudio recomienda considerar la integración financiera para el desarrollo económico y evitar la ocurrencia de riesgos al considerar una política fiscal.

Originalidad/valor: Los resultados destacan los sectores donde se requiere integración financiera. Además, se ha enfatizado el establecimiento de un banco internacional subsidiario en la economía residente con los préstamos del centro financiero local.

Palabras clave: Flujos de Capital, Integración Financiera, Estabilidad Financiera, Inflación, Política Monetaria.

INTRODUCTION

Financial integration is a phenomenon where the financial markets in the region, neighbourhood or global economies are very closely associated with each other like cross-border capital flows, international participation in the domestic financial markets and sharing of information among financial institutions (Selvarajan & Ab-Rahim, 2020). On the other hand, financial stability is about the absence of system-wide episodes in which the financial systems face crises. It is also described as the resilience of financial systems to stress. A stable financial system can effectively allocate resources, evaluate and manage financial risks, maintain the levels of employment near the natural rate of the economy and remove relative price movements of financial assets that will impact the monetary stability or the levels of employment (Drobnyazko, Barwinska-Malajowicz, Slusarczyk, Chubukova & Bielialov, 2020).

A study in Vietnam states that the reduction of independence of monetary policy is caused by financial integration in a short interval (Tran, 2021). African Continental Free Trade Area (AfCFTA) play an important role in financial stability, helping 1.0 million people suffering ion starvation and increasing national incomes (Simola, 2022). There must be a debate among the policymakers that how the AfCFTA will influence the sustainability of food security and joining Free Trade Agreements (FTAs) for the implementation of legal and effective policies (Pasara, 2020).

Organizational changes in the economic conditions, such as proper integration of economies or complicated financial integration, affect productive factors and establishments in both ways, solely and as a whole. Integration can uplift the funding chances of individual financial establishments, authorizing them to generate high profits at a similar extent of risk. Even if the gains of deepening financial integration exceed the threats, whether this procedure provides aid to the rising monetary steadiness depends mainly on the elasticity and flexibility of the financial network itself, which domestic and global administration should be able to escalate. Specially after pandemic the situation of financial stability has been worse with a decreasing profitability (Abdullah, 2023). Jordan was affected highly due to the pandemic however the impact of Corona epidemic's spread in the region was controlled with the help of networks and databases provided by the field of information technology (IT) (Alrjoub, 2023). Macroprudential policy (MaPP) is another tool considered after the crises in 2008-2009 to stabilize the finance for economic benefits. A study shows that that lack of data hinders to conduct of analytical research (Nguyen, Pham & Thuy, 2021). Moreover, the financial sector as a whole may be more exposed to structural and individual risk in circumstances of the elevated geographical and sectorial combination of the investing and other monetary hubs. Another study states that unless regulation of financing is strengthened and appropriate practical tools to control bank risks are properly set, financial integration may facilitate the expansion of risks within the national borders of the countries involved in the Eurasian Economic Union (EAEU) (Pak & Iwata, 2020). Financial integration can give rise to a significant threat of contagion within the territory. Specifically, it may cause additional risks if the organization or establishments are weak. Hence, putting financial stability in danger, particularly in developing countries (Park & Lee, 2011).

Recently, policy discussions over the relationship between financial stability and financial integration have increased. This topic is of great value in the research schemes of central banks and universities. European Union indicated evolving risks to financial stability

estimated by the financial market, blaming the financial stability arrangement (Decressin, Fonteyne & Faruqee, 2007). The recent financial crisis experienced proves that this area needs attention; this provides sufficient evidence to demonstrate how quickly the financial crisis spreads from one institution to another in today's international monetary hubs. Financial institutions also hope to reduce cross-border exposure to decrease their risk of overseas investment portfolios. Unfortunately, this has led to increased market fragmentation, especially in Europe, which has adversely affected currency and finance (Erauskin & Turnovsky, 2019; Inekwe, Jin & Valenzuela, 2018).

South Africa joined the Southern African Development Community (SADC) in 1994, and the following countries are currently members: Angola, Botswana, the Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Each member state accepts responsibility for the management and development of a specific economic sector. The Heads of State of the SADC countries are the decision-making body for making policies. The Council of Ministers meets regularly for the revision of progress (Van Zyl, 2003). Recent studies in southern Africa show that the government has taken no interest in the financing stability for the economic growth in the Economic Community of West African States (ECOWAS), therefore full support of all members from all countries is required to improve the government on the terms of improving financial sector in the region (T Adeyele & Ouedraogo, 2019).

Consensus shows that a stable financial system across jurisdictions can promote financial integration. For example, according to the European Central Bank on financial integration, a sound, highly integrated, and fully supervised market helps to allocate resources more efficiently over time and within the jurisdiction. Also, the temporary equalization and increase of capital supply led to readily available profitable investment opportunities. Besides, higher capital adjustments can increase competition and reduce intermediary costs, achieving more sustainable economic growth (Amtenbrink, 2019).

For testing financial integration, stock markets have brought forth an appealing strategy. In contrast, say glittering and short-term funds, stocks are securities embedded in a tangled real asset. The essentials of the actual economy development ratios, labour expenses, competitiveness, and organizational setting incorporating taxation may also show various levels of secular convergence and will demonstrate that the essentials of taxation are embedded in different sectorial compositions. However, the ratification of a parallel currency may help financial integration by erasing financial risk factors, eliminating organizational and legal

barriers, modernizing worldwide financial hubs, and escalating stages of trans-border fusion and acquisition pursuit to escalate financial integration (Higson, Holly & Petrella, 2013).

Financial integration is one of the essential pre-conditions for a stable monetary policy. If the monetary policy is not stable, there would not be any stability in the financial system. One-way monetary policy could be made durable is by "reducing heterogeneity in the monetary policy transmission mechanism" (Nardo, Ossola & Papanagiotou, 2022). It has been observed that the most common instant effect of variations in significant regulatory rates can be observed in the money markets. Therefore, it is critical to have fully integrated financial markets so that the impact could be broad and homogenous across banks and other jurisdictions. If markets are fully financially integrated, this will lead to complete access to markets and marginal costs for financial institutions based on their creditworthiness (Pak & Iwata, 2020).

The connection between financial integration and economic development is a debated topic among researchers; this elevates whether financial integration plays a vital role in increasing productive development. The factual proofs of financial integration and economic growth were assorted (Naguib, 2017; Kose, Prasad & Terrones, 2003). The evidence of the actual profits for an extended period of macroeconomic development remains controversial (Kose, Prasad & Terrones, 2003). According to Adam, Jappelli, Menichini, Padula and Pagano (2002), the influence of financial integration on economic growth is not well-studied theoretically. Most of the works from the past point to the theoretical structures, which identified numerous channels through which financial integration aids to upgrade economic development in progressing countries. However, it is tough to analyse a robust and sturdy causal connection between financial integration and economic growth. It has been observed in various studies that financial instability in the financial system is mainly caused by financial integration. A study portrays the hypothesis that A significant threat to financial integration is the risk of financial instability. This study tests the hypothesis that deeper financial integration causes financial instability in the domestic financial systems (Mottelle & Biekpe, 2015). Therefore, this study identifies the relationship between financial integration and financial stability. This research fills the gap between the casual association between financial integration and financial stability and whether increasing financial integration steers to expanding financial stability.

LITERATURE REVIEW

Numerous applied financial integrations include: disseminating information between financial establishments; disseminating best practices amongst financial institutions; sharing

creative technology (permitting) among financial institutions; organizations are directly acquiring and raising money in the international market; shareholders now pour funds into the global capital market; recently structured monetary goods are innovative local products etc. (Lane & Milesi-Ferretti, 2018). Buying and selling these occurs in the international capital market; quickly adapt/imitates newly designed financial products amongst financial institutions in dissimilar economies; cross-border flows of capital; and foreign countries participate in the local financial market (Dias, da Silva & Dionísio, 2019).

Due to the defective financial market, the financial integration in neighbouring countries' regional and international economies is imperfect. For instance, flawed financial integration may be caused by an imbalance in the profit margins of dissimilar agents' alternatives. Besides, legal limitations may deter financial integration as well. Therefore, it is also possible to cancel cross-border financial activities to permit financial institutions to function freely and allow companies to directly accumulate or borrow and invest in stocks and bonds for investment so that cross-country investments can be made with fewer or no restrictions realizing financial integration (Ehigiamusoe & Lean, 2019). Trend analysis of the foundational factors of financial integration for the SAARC countries was carried out. The same was emulated by its neighbouring geographical, economic block in Asia, i.e., ASEAN + 6 in a study conducted by Sehgal, Pandey and Deisting (2018) as they suggested that SAARC countries have to express loyal political regulations and need to participate in efforts of policy transformation to operate on their governance framework, enhance their trade routes and trade tariffs and grow their stock hub's structure to earn more significant benefits from financial integration.

It is essential to remember that many legal limitations due to market failures can hinder financial mergers. Legal restrictions are the second-best tool for dealing with market failures that restrict financial mergers (Hoffman, Kremer & Zaharia, 2020). As a result, removing legal restrictions may lead to a deterioration of the global economy. Moreover, the financial integration of neighbouring nations, regions, and the international economy can be achieved through official international conventions. The managers of these economies agree to respond to local or international monetary turbulence through governing and policy countermeasures (Inekwe & Venezuela, 2020). Measuring the degree of financial integration comprises total flows of capital, foreign assets and liabilities of stocks, equilibrium returns of supplies, the distribution of global accurate interest rates, and the degree of financial candidness. There is also a view that it is not the country's economic integration but the total capital flow, the

bilateral capital flow, ignoring the capital surplus and capital deficit. For instance, nations with just inflows of capital but no outflows will not be considered for financial integration (Inekwe & Venezuela, 2020). Researchers studied the financial crises of 2008 covering 31 countries between 1978 and 2018. The results speak negatively towards the welfare analysis of these countries in terms of financial integration during crises (Tang & Yao, 2022). A study shows that during financial integrity the capital flow increased consistently but decrease during crises (Tran & Hoang, 2021).

Feature of the financial system can eliminate financial inequities caused by incidents in the financial market or major adverse and unforeseen events. After stabilization, the system mainly absorbs economic shocks through self-correction methods and prevents side effects from destroying the real economy or dispersing other financial systems. Financial entities prioritize economic growth because most economic connections are conducted through the financial system (Castiglionesi, Feriozzi & Lorenzoni, 2017). In the absence of financial stability, banks will be more unwilling to provide financing for lucrative projects. Asset prices may diverge significantly from their value, and payment and settlement plans are different from conventional ones. Therefore, financial stability is necessary to maintain the economy's assurance (Dafermos Nikolaidi & Galanis, 2018). The likely penalties for unwarranted instability are financial crises, bank failures, hyperinflation, and crashed stock markets. Financial stability is essential to the stability of prices and the central bank's policy goals and is necessary for the healthy growth of the economy. Because financial instability will bring high costs to the economy, and because financial market price becomes volatile, financial institutions or corporations may go insolvent. Furthermore, because economists find it problematic to make wise choices and the efficacy of resource distribution decreases, economic development at this time may be restricted (Aikman, Bridges, Burgess, Galletly, Levina, O'Neill et al., 2018).

Financial stability is a comprehensive abstract that fills numerous features of finance and the structure of financial establishments, institutions, and hubs. Both individual and government entities engage in significant market and financial infrastructure aspects, including the legal system and the general framework of financial supervision and control. The government borrows the market, hedges risk, controls monetary policy, maintains currency stability through market operations, and owns and operates payments and settlements systems (Kopp, Kaffenberger & Wilson, 2017). An empirical study by Nasir, Yago, Soliman and Wu (2016) conveys that disciplined economic and solicitous monetary policy posture was the key

factor for financial sectors' stability. Furthermore, monetary indiscipline countered by a contractionary monetary stance adversely affects financial institutions' stability.

Financial stability not only means that finance plays the only role in directing and governing funds and threats, generating savings, uplifting wealth accretion, expansions and development; it must also focus on the payment structure of the whole economy if it is working well or any other changes need to be done in this system. So, this requires currency or central bank currency and its substitutes, such as demand deposits and other bank account derivatives, to perform its role as a generally accepted payment method and have short-term value when appropriate. In other words, financial stability is usually viewed as an essential component of currency stability intersection to a considerable extent (Xu, Hu & Das, 2019). The worldwide fiscal issues resulted in a necessary loss to the worldwide economy involving increasing government debt, a high unemployment ratio and causing a regulatory change from ensuring cost stability to financial stability (Ilesanmi & Tewari, 2019). All these factors lead to poverty. The provision of proper products to individuals and businesses should be put under consideration by the authorities. A study shows the necessity of financial inclusion (FI). It further elaborates that financial inclusion will reduce poverty, and income inequality and improves financial stability (Khan, Khan, Sayal & Khan, 2022). The conditions of financial sustainability will be met after the access is provided according to their needs. Accounting Information System (AIS) is another emerging technology to achieve financial sustainability. However, despite the significant rise of AIS, there are still inconsistencies in the results of the recent studies that evaluate the effects of AIS on financial sustainability (Ali & Oudat, 2021).

Financial integration deeply affects financial stability. Economies in under-developing countries suffer due to the implementation of financial integrity. Financial integration surges in capital flow into developing countries result in increased domestic savings. Domestic financial stability can be damaged by the reversal of capital (Motelle & Biekpe, 2015). In the business sector, the role of financial integrity and financial stability is influential. Finance is considered the heart of every business it's the profits that decide the success of every business and businessman. Stability in finance and profits is acquired with honest trades. Financial integrity in exports and imports is vital so that the buyer and consumer get equal profit. A study was conducted in India to test the relationship between financial integrity (FI) and the business cycle (BC). The results put forward a positive impact of FI on BC desynchronization among the counties. (Pradhan & Prabheesh, 2020). The above results show that the developed country's financial integrity rule if implied to developing countries will result in damaging the business

sector for the domestic financial market. So far financial integrity has shown a negative impact on developed and developing countries in terms of financial stability.

The research results would aid the financial system to determine the relationship between financial integration and financial stability and whether an increase in financial integration leads to increased financial stability. The study would assess that Liquidity (LIQ), Inflation (INF) Gross Domestic Product (GDP) and Net Internet Margin (NIM) positively impact financial stability. Also, financial institutions should focus on economic indicators like GDP and Inflation for bank stability and improve their policies for making these indicators more beneficial for the financial market. Inflation and GDP are the two most important indicators to make banks stable. Thus, the bank managers must focus on these economic indicators to develop the policies accordingly and benefit. In light of the above-mentioned complexities to be resolved the following hypothesis is formulated

Ho: There is a non-linear relationship between financial deepening and TFP growth.

H1: There is a linear relationship between financial deepening and TFP growth.

MATERIALS AND METHODS

The distributional outcome of financial integration and liberalization, calculated in this study by casting an Autoregressive-Distributed Lag (ARDL) regression, calculated by ordinary least squares (OLS) regression as in equation (1) (Bahmani-Oskooee & Fariditavana, 2015; Pesaran, Shin & Smith, 2001; Sehrawat & Giri, 2015). ARDL model is used to forecast results from the data provided in the past years.

$$R(k2,t) - R(k1,t)$$

$$R(k2,t) - R(1,t) + R(1,t) - R(k1,t)$$

This equation demonstrates the value of ARDL at the time 't' for lag 1, 2.

A panel unit root test is conducted to test chronically ordered data to test the significance (Karlsson & Löthgren, 2000). We use Durbin-Watson diagnostic test to report the stationarity of data. This method is suitable for evaluating the enthusiastic reaction of the dependent variable leading to a new economic decision. Analyzing the dependent variables' changes before and after the implementation of financial stability demands the identification of dates when the relaxation of the restriction was applied.

This paper has followed the study of Quinn and Toyoda (2008); which encountered a variable variation when its growth surpasses the mean annual variation by two standard deviations through comprehensive data. Considering this study, identified the liberalization period when the annual change in the ka open index presented by Chinn and Ito (2008); decreases the mean annual variations in overall observations by two standard deviations (i.e., lower than 0.472), or when the yearly variation in the ka index presented by Fernández, Klein, Rebucci, Schindler and Uribe (2016) increase the mean annual variations in overall observations by two standard deviations (i.e., higher than 0.788). This practice identified 153 periods of capital account liberalization.

The past thirties have been linked with higher liberalization (LIB) in many financial systems. As a result, there has been a progressive decrease in the level of controls that economies apply to international financial operations. The 'LIB' variable shows a rise, on average, across income categories, with a specific relevant increase happening in the early 1990s. The 'LIB' variable changes considerably for all income categories, for more control periods usually registered in middle and low-income economies. To remove the outcome of capital account liberalization from others, the model introduces the vector Z_{it} , composed of four control variables — Z-score, NIM, institutional size, liquidity, efficiency, and GDP growth. These control variables also play the role of channels to improve financial stability. These channel variables are introduced in interaction with the capital account liberalization variable. The interaction terms' coefficients are evaluated using cross-country and time-series changes in the observations. They captivate the effect of the channel variables, which have smaller stringent even if the degree of capital account liberalization fastened. The impact of the channel variables has smaller strict in economies that have restricted capital account transactions.

The research operates by using the Panel Smooth Transition Models (PSTR) to identify the inconsistency between financial integration and financial stability and identify the entry-level of financial deepening beyond which Total Factor Productivity (TFP) growth is possibly lessened. The PSTR structure was made by Gonzalez (2005) and Fok, Svan Dijk and Franses (2005) and has been widely operational to discover inconsistent connections in recent years. This model will help the regression coefficient move smoothly. Applying the PSTR model has various advantages. This method permits the dimensions of the variables to change with flexibility from one regime, known as the lower bound to the upper bound. While applying the PSTR method allows for time-varying and heterogeneity in the parameter evaluations. The first

stage in calculating the PSTR structure is identifying if the connection between financial integration and stability is straight or linear. Suppose one looks at the scenario of a PSTR model with a single entrance or two regimes, where $i=1, N$, and $t=1, T$; N and T define cross-section units and time dimension of the panel, respectively. A_i is the country fixed effects, ε_{it} is an error term, G_{it} is the total factor productivity growth, and Z_{it} is a vector of time-varying explanatory variables, which composes net FDI input (% of GDP). Initial real GDP per capita; trade openness; a proxy for quality of institutions; human capital; government consumption (% GDP); an indicator of the quality of the regulatory and supervisory environment and dummy variable to capture the effects of the banking crisis.

All defined variables lagged one period, except the banking crisis dummy variable to establish against potential endogeneity bias due to reverse causality. Following Gonzalez [30], the function $\theta(\text{FDI}, t-1; \gamma, \vartheta)$ is the threshold variable, financial deepening indicator and bounded between 0 and 1. These uttermost values of the transition function correspond with the relapsing parameters of β_0 when financial deepening is extremely low and $(\beta_0 + \beta_1)$ when it is highly uplifted. The threshold variable, financial deepening, is also lagged one period $\text{FDI}, t-1$; γ is a slope parameter, which identifies the flexibility of the transition function, and c is a location or threshold parameter of financial deepening. The nonlinearity between financial deepening and TFP growth is discovered by testing the null hypothesis of linearity against the alternative of the PSTR model. This test is analyzed using the Wald and likelihood ratio test statistics. If the null hypothesis is not rejected, estimating the model using the linear panel with fixed effects would be appropriate. The regressions will be run using the E-views econometrics software application.

The data on financial stability and integration was taken from the latest version 10.0 of Penn World Tables which contains data from 183 countries and consists of approximately 8,000 annual time series with a period which begins as early as 1950 and ends in 2019. Indicators of financial development from the Global Financial Development Indicators. The data includes all the South Asian countries and foreign countries to compare the development rate. Data on GDP from the United Nations Conference on Trade and Development (UNCTAD) online. Indicators of institutional quality from the International Country Risk Guide (ICRG). While the World Bank indicators of institutional quality (Kauffman index) are widely used, these indicators span for a relatively short period starting in 1996, while the ICRG indicators began in 1984. In addition, Penn World tables will obtain other control variables such as initial real GDP per capita, trade openness, and government consumption (% GDP). Similarly, the indicator of the

quality of the regulatory and supervisory environment and banking crisis dummy variable will be obtained from the relevant sources.

RESULTS AND DISCUSSION

Table 1 presents descriptive statistics and random effect test comparisons for the variables from 1281 observations. It has been shown that NIM has a mean of 44.99 ± 31.88 per cent ranging between 2.18 per cent and 208.10 per cent. This result elaborates the data average with a low standard deviation which confirms that the data collected is nearly equal to the average value. Respectively SIZE has a mean of 1303.50 ± 927.09 USD ranging between 170.58 USD and 4271.33 USD. This result displays a gap in the data values with a high standard deviation. LIQ has a 17.07 ± 141.59 per cent ranging from -35.84 per cent to 4145.11 per cent. EFF has a mean of 45.68 ± 148 ranging between 0.17 and 1310. INF has a mean of 46.98 ± 10.11 , ranging from 23.29 to 72.50.

Table 1 - Descriptive Statistics.

Variables	Units	Mean	Std. Dev.	Minimum	Maximum	Average Frequencies	Obs.
NIM	%	44.99	31.88	2.18	208.10	1	1281
SIZE	USD	1303.50	927.09	170.58	4271.33	1	1281
LIQ	%	17.07	141.59	-35.84	4145.11	1	1281
EFF	Million	45.68	148	0.17	1310	1	1281
INF	Index	46.98	10.11	23.29	72.50	1	1281

Source: Prepared by the authors (2023).

Note Net Internet Margin (NIM); Institutional Size (SIZE); Liquidity (LIQ); Efficiency (EFF); Inflation (INF); Standard deviation (Std. Dev.).

Table 2 provides the result of panel unit root analysis at constant with trend estimated using LLC, IPS, ADF and PP statistics. The probabilities in the result are higher than the standard p-value (0.05) therefore, all the variables have been found statistically insignificant, which shows that the data has a unit root and it is non-stationary. Therefore, it has been manifested that all the variables have been found stationary at first difference. Hence, panel integration has been applicable hereafter.

Table 2 - Panel Unit Root Test

Variable			Constant		Constant & Trend	
			I (0)	I (1)	I (0)	I (1)
NIM	LLC	Stats	4.12	-19.94	-0.84	-18.50
		Prob.	1.00	0.00	0.20	0.00
	IPS	Stats	8.77	-18.61	0.45	-15.65
		Prob.	1.00	0.00	0.67	0.00
	ADF	Stats	68.64	561.70	150.84	451.63
		Prob.	1.00	0.00	0.04	0.00
PP	Stats	48.81	900.25	107.91	588.59	
	Prob.	1.00	0.00	0.81	0.00	
SIZE	LLC	Stats	10.80	-14.62	-1.02	-11.42
		Prob.	1.00	0.00	0.15	0.00
	IPS	Stats	14.21	-14.61	0.92	-13.21
		Prob.	1.00	0.00	0.82	0.00
	ADF	Stats	60.72	476.12	160.79	411.03
		Prob.	1.00	0.00	0.01	0.00
PP	Stats	49.64	553.97	112.57	526.31	
	Prob.	1.00	0.00	0.72	0.00	
LIQ	LLC	Stats	-7.37	-19.53	2.74	-20.3
		Prob.	0.00	0.00	1.00	0.00
	IPS	Stats	-1.14	-19.62	2.70	-20.17
		Prob.	0.13	0.00	1.00	0.00
	ADF	Stats	126.41	601.91	112.12	564.87
		Prob.	0.37	0.00	0.73	0.00
PP	Stats	233.76	1065.33	119.53	724.91	
	Prob.	0.00	0.00	0.55	0.00	
EFF	LLC	Stats	225.56	-53.43	232.37	-14.66
		Prob.	1.00	0.00	1.00	0.00
	IPS	Stats	-1.78	-34.61	0.86	-29.04
		Prob.	0.04	0.00	0.81	0.00
	ADF	Stats	137.35	1136.65	109.21	798.56
		Prob.	0.16	0.00	0.79	0.00
PP	Stats	1347.91	4175.99	1656.05	1128.01	
	Prob.	0.00	0.00	0.00	0.00	
INF	LLC	Stats	3.63	-6.28	19.41	-22.90
		Prob.	1.00	0.00	1.00	0.00
	IPS	Stats	12.16	-3.45	0.15	-26.57
		Prob.	1.00	0.00	0.56	0.00
	ADF	Stats	90.00	400.77	221.86	687.04
		Prob.	0.87	0.00	0.00	0.00
PP	Stats	106.68	111.76	138.27	164.39	
	Prob.	0.46	0.74	0.15	0.01	

Source: Prepared by the authors (2023).

Note: Net Internet Margin (NIM); Institutional Size (SIZE); Liquidity (LIQ); Efficiency (EFF); Inflation (INF); Lee-Ready-Stock (LLC); Proportional fitting and scaling (IPS); Augmented Dickey-Fuller (ADF); Phillips-Perron (PP); Probability (Prob).

Table 3 provides findings of pooled OLS test via the random-effect method for assessing the relationship between dependent and independent variables. The results demonstrated that NIM (5167.93, $p < 0.10$) showed a positive effect, gross domestic product (80.35, $p < 0.10$) also has constructive and significant and inflation (14.40, $p < 0.01$) was also impacting constructively on the financial growth. Additionally, the results explained that the substitution

in the financial gain is 84.8%, which is made clear by combining all the independent variables. Moreover NIM, LIQ and GPD came forward with an acceptable t-value which shows the significance of the result.

Table 3: OLS Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	864.7056	313.9716	2.754089	0.0086
NIM	5167.93	2242.709	-2.30432	0.0261
SIZE	-6.54182	14.67813	-0.44569	0.6581
LIQ	-845.742	402.8548	-2.09937	0.0417
EFF	0.658703	0.644794	1.021571	0.3127
INF	14.4019	7.496496	-1.92115	0.0614
GDP	80.3517	32.489	-2.4732	0.0174

Source: Prepared by the authors (2023).

Note Net Internet Margin (NIM); Institutional Size (SIZE); Liquidity (LIQ); Efficiency (EFF); Inflation (INF); Gross Domestic Product (GDP); Standard error (Std. Error).

The findings in Table 4 show that all residuals were found statistically significant, indicating strong evidence of co-integration using the Pedroni (1999) technique. The results have further demonstrated a long-term and integrated association between the study variables.

Table 4: Co-Integration Test

	t-Statistic	Prob.		
ADF	-3.4628	0.0003		
Residual variance	15763.6			
HAC variance	5105.363			
Included observations: 40 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID (-1)	-1.42273	0.152078	-9.35527	0
R-squared	0.691727	Mean dependent var		-1.11014
Adjusted R-squared	0.691727	S.D. dependent var		128.6202
S.E. of regression	71.41294	Akaike info criterion		11.39952
Sum squared resid	198892.5	Schwarz criterion		11.44174
Log-likelihood	-226.99	Hannan-Quinn criteria.		11.41478
Durbin-Watson stat	2.713155			

Source: Prepared by the authors (2023).

Note: Augmented Dickey-Fuller (ADF); Standard Error (S.E.); Heteroskedasticity and autocorrelation consistent (HAC).

Table 5: Granger Causality Test

Null Hypothesis	F-Statistic	Prob.
NIM does not Granger Cause ZS	0.02071	0.9795
ZS does not Granger Cause NIM	0.67529	0.5181
SIZE does not Granger Cause ZS	1.796	0.1867
ZS does not Granger Cause SIZE	0.51184	0.6055
LIQ does not Granger Cause ZS	0.2219	0.8026
ZS does not Granger Cause LIQ	1.04987	0.3649
EFF does not Granger Cause ZS	0.00275	0.9973
ZS does not Granger Cause EFF	0.10773	0.8983
INF does not Granger Cause ZS	1.466	0.25

ZS does not Granger Cause INF	2.75298	0.0831
GDP does not Granger Cause ZS	1.466	0.25
ZS does not Granger Cause GDP	-12.0443	1
SIZE does not Granger Cause NIM	1.63162	0.2158
NIM does not Granger Cause SIZE	1.8215	0.1826
LIQ does not Granger Cause NIM	3.50172	0.0456
NIM does not Granger Cause LIQ	1.80133	0.1859
EFF does not Granger Cause NIM	1.10618	0.3465
NIM does not Granger Cause EFF	2.19598	0.1322
INF does not Granger Cause NIM	2.82029	0.0786
NIM does not Granger Cause INF	-7.54352	1
GDP does not Granger Cause NIM	2.82029	0.0786
NIM does not Granger Cause GDP	-11.9755	1
LIQ does not Granger Cause SIZE	4.37473	0.0235
SIZE does not Granger Cause LIQ	1.03862	0.3687
EFF does not Granger Cause SIZE	5.23834	0.0126
SIZE does not Granger Cause EFF	2.95588	0.0704
INF does not Granger Cause SIZE	0.7402	0.4872
SIZE does not Granger Cause INF	-12.4	1
GDP does not Granger Cause SIZE	0.7402	0.4872
SIZE does not Granger Cause GDP	-10.2849	1
EFF does not Granger Cause LIQ	2.73658	0.0842
LIQ does not Granger Cause EFF	0.95092	0.3999
INF does not Granger Cause LIQ	3.56938	0.0433
LIQ does not Granger Cause INF	16.4548	3.00E-05
GDP does not Granger Cause LIQ	3.56938	0.0433
LIQ does not Granger Cause GDP	-10.0769	1
INF does not Granger Cause EFF	1.00253	0.3812
EFF does not Granger Cause INF	-6.05346	1
GDP does not Granger Cause EFF	1.00253	0.3812
EFF does not Granger Cause GDP	59.5992	3.00E-10
GDP does not Granger Cause INF	NA	NA
INF does not Granger Cause GDP	NA	NA

Source: Prepared by the authors (2023).

Note Z-Score (ZS); Net Internet Margin (NIM); Institutional Size (SIZE); Liquidity (LIQ); Efficiency (EFF); Inflation (INF); Gross Domestic Product (GDP).

One of the studies that were selected was Nasreen (2017); the F-test limit determines the monetary adjustment relationship amid "financial stability," "economic integration," financial integration, and governance in all South Asian regions. These results have had an important impact on the future direction of economic and financial integration. Examination shows that economic and financial integration is the primary channel to mediate the effects of the financial crisis in South Asian economies; the more the local financial system hinges on trade and open finance, the more likely it will be hit by the financial calamity. Opening a current or capital account during the financial crisis may negatively affect. On the other hand, there is no uncertainty that too and international capital flows are significant growth drivers for developing nations. This thinking raises an important question: how should emerging countries

respond to financial crises to endorse financial and "economic integration" and maintain their domestic "financial stability."

The significant propositions are the following. First of all, pursue an effective integration regulation within the region, rather than depending heavily on the economies of advanced countries outside the region. Second, monetary adjustment strategies should focus on managing the actions of financial mediators and investment managers/funds rather than squeezing local depositors' interest rates and returns. Third, foreign currency cross-border loans from local financial centres should only limit the number of large companies but should encourage the establishment of subsidiaries of international banks in the resident economy and domestic loaning and bond issuance. Fourth, macroeconomic provident tools are more valuable and productive in more open financial economies than in more mature financial companies. Still, they must be actively used when desirable and are predominantly suitable for managing real estate fluctuations. Fifth, the banking sector dominates the South Asian financial region and capital markets (i.e., stock and bond markets), hurting meagre governance.

Strict financial rules will help advance the governance of South Asia Bank and other financial organizations. Likewise, the stock market is incompetent and has unfair practices, such as "insider trading," with almost no privileges but other stockholders' expenditures. Consequently, the major factor in refining the financial sector is a sound and operative regulatory agenda. These methods can improve the competence and consistency of the South Asian financial system against financial crises and internal and external shocks. Another study that assessed the connection between financial integration and "financial stability" was carried out by Tofan, Roman and Bilan (2017). According to this research, financial integration and "financial stability" are multi-faceted processes, and there have been many controversies in the literature. Most authors discuss these two terms' definitions and then look for different ways to measure each phenomenon separately. The main idea found in the literature is that financial transmission is the most important cost of financial integration because financial adjustment helps diversify risks. Still, it also increases the transmission of crises. This crisis is a systemic warning to the reliability of international monetary establishments. Since the empirical research conducted on this topic has used methods to measure the two phenomena separately, rather than the relationship between them, we performed regression analysis to show that the factors used have coefficient levels signals that can be considered. There is a vital connection among the variables: financial integration mentioned in terms of total capital establishment and finance expressed in government expenditure, unemployment rate, bank Z-axis level, government debt,

and financial integration and financial transmission proportional to financial transmission. Pass, which negatively impacts the financial merger. The finding also confirms the following point of view: due to the spread of the financial crisis, deeper financial integration will lead to higher costs, which involves concessions between them. $p < 0.10$) showed a positive effect, gross domestic product (80.35, $p < 0.10$) also has positive and significant and inflation (14.40, $p < 0.01$) also impacting significantly the financial development. The results also show that the independent variables of financial integration affecting financial transmission greatly impacted after the crisis and in countries outside the euro area. Therefore, fiscal policy should seek measures to reduce the risk of crisis transfer and increase the benefits of financial integration to achieve "financial stability." The phenomenon of financial integration can develop as a system that can transfer crises and achieve "financial stability".

There are certain limitations of the present study. For instance, the study fails to evaluate the risk factor in financial transmission for financial integrity, how financial transmission can benefit financial integrity, and the benefits of these changes on the stability of finances in the financing system. Future studies should focus on improved and strict financing rules for the banking system highlighted by this study, especially in Asian banks and their financing systems.

CONCLUSION

The study has been conducted to determine the effect of increasing financial integration on the stimulation of financial stability. The study adopts Autoregressive-Distributed Lag (ARDL) regression model by applying least squares (OLS) regression. The study further evaluated the non-linearity between two variables by applying a Panel Smooth Transition Model (PSTR). This study indicates that financial stability is positively affected by the net interest margin, liquidity, inflation and GDP. Thus, bank managers must work on these areas to groom their banks' stability. First, the managers have to generate positive net interest margins in the banks; this can be done by charging a higher interest rate from the provided loans that are somehow not possible in the current competitive market. The second option is to offer an increased number of loans so that a significant amount of interest would be generated, and thus the net interest margin would turn positive. Secondly, liquidity makes a bank stable, as per the analysis results. Therefore, bank managers should focus on investing their funds in those assets that are more liquid forms. Investing in non-liquid assets get the funds stuck for the bank, and they are not easy to move from one asset to another. On the other hand, investment in more liquid assets makes it easy for banks to switch their investments. Finally, inflation and GDP are

the two most important indicators to stabilise banks. Thus, bank managers must focus on these economic indicators to develop policies accordingly and to be benefitted. The bank should also focus on reducing homogeneity in the policy transmission mechanism. The results showed the positive impact of financial integration affecting financial stability in the countries after facing financial crises. Risk in such cases should be measured and avoided as recommended by the fiscal policy. The researchers in future studies should focus on the benefits of financial integration to improve financial stability for the betterment of the economy.

DECLARATION OF INTEREST

The author declares no conflict of interest.

ACKNOWLEDGEMENT

The author acknowledges all the associated personnel who contributed to the completion of this study in any reference.

COMPETING INTEREST

The author declares no competing interest.

FUNDING

This research is not funded by any source.

REFERENCES

Abdullah, M. A. (2023). COVID-19 Pandemic and Financial Performance. *International Journal of Professional Business Review*, 8(4), e0825. <https://doi.org/10.26668/businessreview/2023.v8i4.825>

Adam, K., Jappelli, T., Menichini, A., Padula, M., & Pagano, M. (2002). Analyse, compare and apply alternative indicators and monitoring methodologies to measure the evolution of capital market integration in the European Union. *Report to the European Commission*, 2002, 1-95.

Aikman, D., Bridges, J., Burgess, S., Galletly, R., Levina, I., O'Neill, C., & Varadi, A. (2018). *Measuring risks to UK financial stability (No. 738)*. Bank of England. Retrieved from:

<https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2018/measuring-risks-to-uk-financial-stability>

Ali, B. J., & Oudat, M. S. (2021). Accounting Information System and Financial Sustainability of Commercial and Islamic Banks: A Review of The Literature. *Journal of Management Information & Decision Sciences*, 24(5).

Alrjoub, A. M. S., Al-Qudah, L. A. M., Al-Othman, L. N., Bataineh, A., Aburish, K. E., & Alkarabsheh, F. (2023). Information Technology and its Role in Improving the Quality of Financial Control due to Corona Pandemic: the Jordanian Income Tax as A Case Study. *International Journal of Professional Business Review*, 8(4), e01568. <https://doi.org/10.26668/businessreview/2023.v8i4.1568>

Antenbrink, F. (2019). The European Central Bank's intricate independence versus accountability conundrum in the post-crisis governance framework. *Maastricht Journal of European and Comparative Law*, 26(1), 165-179. <https://doi.org/10.1177%2F1023263X18822789>

Bahmani-Oskooee, M., & Fariditavana, H. (2015). *Nonlinear ARDL approach, asymmetric effects and the J-curve*. *Journal of Economic Studies*, 42(3), 519-530. <https://doi.org/10.1108/JES-03-2015-0042>

Castiglionesi, F., Feriozzi, F., & Lorenzoni, G. (2019). Financial integration and liquidity crises. *Management Science*, 65(3), 955-975. <https://doi.org/10.1287/mnsc.2017.2841>

Chinn, M. D., & Ito, H. (2008). A new measure of financial openness. *Journal of comparative policy analysis*, 10(3), 309-322. <https://doi.org/10.1080/13876980802231123>

Dafermos, Y., Nikolaidi, M., & Galanis, G. (2018). Climate change, financial stability and monetary policy. *Ecological Economics*, 152, 219-234. <https://doi.org/10.1016/j.ecolecon.2018.05.011>

Decressin, M. J., Fonteyne, M. W., & Faruquee, M. H. (2007). Integrating Europe's financial markets. International Monetary Fund. <https://doi.org/10.5089/9781589066236.071>

Dias, R., da Silva, J. V., & Dionísio, A. (2019). Financial markets of the LAC region: Does the crisis influence the financial integration?. *International Review of Financial Analysis*, 63, 160-173. <https://doi.org/10.1016/j.irfa.2019.02.008>

Drobnyazko, S., Barwinska-Malajowicz, A., Slusarczyk, B., Chubukova, O., & Bielialov, T. (2020). Risk management in the system of financial stability of the service enterprise. *Journal of Risk and Financial Management*, 13(12), 300. <https://doi.org/10.3390/jrfm13120300>

Ehigiamusoe, K. U., & Lean, H. H. (2019). Do economic and financial integration stimulate economic growth?. A critical survey. *Economics*, 13(1). <http://dx.doi.org/10.5018/economics-ejournal.ja.2019-4>

Erauskin, I., & Turnovsky, S. J. (2019). International financial integration and income inequality in a stochastically growing economy. *Journal of International Economics*, 119, 55-74. <https://doi.org/10.1016/j.jinteco.2019.04.003>

- Fernández A, Klein M W, Rebucci A, Schindler M, Uribe M (2016): Capital control measures: A new dataset. *IMF Economic Review*, 64(3):548-574. <https://doi.org/10.1057/imfer.2016.11>
- Fok, D., van Dijk, D., & Franses, P. H. (2005). Forecasting aggregates using panels of nonlinear time series. *International Journal of Forecasting*, 21(4), 785-794. <https://doi.org/10.1016/j.ijforecast.2005.04.015>
- Gonzalez, F. (2005). Bank regulation and risk-taking incentives: An international comparison of bank risk. *Journal of Banking & Finance*, 29(5), 1153-1184. <https://doi.org/10.1016/j.jbankfin.2004.05.029>
- Higson, C., Holly, S., & Petrella, I. (2013). Is there financial integration in the equity markets of the European Union?. *Economics & Finance Research*, 1(1), 31-41. <https://doi.org/10.1080/21649480.2012.751957>
- Hoffmann, P., Kremer, M., & Zaharia, S. (2020). Financial integration in Europe through the lens of composite indicators. *Economics Letters*, 194, 109344. <https://doi.org/10.1016/j.econlet.2020.109344>
- Ilesanmi, K. D., & Tewari, D. D. (2019). Management of shadow banks for economic and financial stability in South Africa. *Cogent Economics & Finance*, 7(1), 1568849. <https://doi.org/10.1080/23322039.2019.1568849>
- Inekwe, J. N., & Valenzuela, M. R. (2020). Financial integration and banking crisis. A critical analysis of restrictions on capital flows. *The World Economy*, 43(2), 506-527. <https://doi.org/10.1111/twec.12855>
- Inekwe, J. N., Jin, Y., & Valenzuela, M. R. (2018). A new approach to financial integration and market income inequality. *Emerging Markets Review*, 37, 134-147. <https://doi.org/10.1016/j.ememar.2018.07.002>
- Karlsson, S., & Löthgren, M. (2000). On the power and interpretation of panel unit root tests. *Economics Letters*, 66(3), 249-255. [https://doi.org/10.1016/S0165-1765\(99\)00237-2](https://doi.org/10.1016/S0165-1765(99)00237-2)
- Khan, I., Khan, I., Sayal, A. U., & Khan, M. Z. (2022). Does financial inclusion induce poverty, income inequality, and financial stability: empirical evidence from the 54 African countries?. *Journal of Economic Studies*, 49(2), 303-314. <https://doi.org/10.1108/JES-07-2020-0317>
- Kopp, E., Kaffenberger, L., & Wilson, C. (2017). Cyber risk, market failures, and financial stability. *International Monetary Fund*. <https://www.imf.org/en/Home>
- Kose, M. A., Prasad, E. S., & Terrones, M. E. (2003). How does globalization affect the synchronization of business cycles?. *American Economic Review*, 93(2), 57-62. <https://10.1257/000282803321946804>
- Lane, P. R., & Milesi-Ferretti, G. M. (2018). The external wealth of nations revisited: international financial integration in the aftermath of the global financial crisis. *IMF Economic Review*, 66, 189-222. <https://doi.org/10.1057/s41308-017-0048-y>

Motelle, S., & Biekpe, N. (2015). Financial integration and stability in the Southern African development community. *Journal of Economics and Business*, 79, 100-117. <https://doi.org/10.1016/j.jeconbus.2015.01.002>

Naguib, C. (2017). The relationship between inequality and growth: Evidence from new data. *Swiss Journal of Economics and Statistics*, 153(3), 183-225. <https://doi.org/10.1007/BF03399507>

Nardo, M., Ossola, E., & Papanagiotou, E. (2022). Financial integration in the EU28 equity markets: Measures and drivers. *Journal of Financial Markets*, 57, 100633. <https://doi.org/10.1016/j.finmar.2021.100633>

Nasir, M. A., Yago, M., Soliman, A. M., & Wu, J. (2016). Financial stability, wealth effects and optimal macroeconomic policy combination in the United Kingdom: A new-Keynesian dynamic stochastic general equilibrium framework. *Cogent Economics & Finance*, 4(1), 1136098. <https://doi.org/10.1080/23322039.2015.1136098>

Nasreen, S., Anwar, S., & Ozturk, I. (2017). Financial stability, energy consumption and environmental quality: Evidence from South Asian economies. *Renewable and Sustainable Energy Reviews*, 67, 1105-1122. <https://doi.org/10.1016/j.rser.2016.09.021>

Nguyen, H. T., Pham, A. T. H., & Thuy, T. D. (2021). The Effectiveness of Macroprudential Policy on Credit Growth at Bank-Level Data in Vietnam. *The Journal of Asian Finance, Economics and Business (JAFEB)*, 8, 325-334. <https://doi.org/10.13106/jafeb.2021.vol8.no8.0325>

Padhan, R., & Prabheesh, K. P. (2020). Business cycle synchronization: Disentangling the direct and indirect effect of financial integration in the Indian context. *Economic Modelling*, 85, 272-287. <https://doi.org/10.1016/j.econmod.2019.10.010>

Pak, O., & Iwata, K. (2020). A path to financial integration: steps for the Eurasian Economic Union. *Asia Europe Journal*, 18(1), 99-115. <https://doi.org/10.1007/s10308-018-00531-1>

Park, C. Y., & Lee, J. W. (2011). Financial integration in emerging Asia: Challenges and prospects. *Asian Economic Policy Review*, 6(2), 176-198. <https://doi.org/10.1111/j.1748-3131.2011.01193.x>

Pasara, M. T., & Diko, N. (2020). The effects of AfCFTA on food security sustainability: an analysis of the cereals trade in the SADC region. *Sustainability*, 12(4), 1419. <https://doi.org/10.3390/su12041419>

Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economics and Statistics*, 61(S1), 653-670. <https://doi.org/10.1111/1468-0084.0610s1653>

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, 16(3), 289-326. <https://doi.org/10.1002/jae.616>

Quinn, D. P., & Toyoda, A. M. (2008). Does capital account liberalization lead to growth?. *The Review of Financial Studies*, 21(3), 1403-1449. <https://doi.org/10.1093/rfs/hhn034>

- Sehgal, S., Pandey, P., & Deisting, F. (2018). Time-varying integration amongst the South Asian equity markets: An empirical study. *Cogent Economics & Finance*, 6(1), 1452328. <https://doi.org/10.1080/23322039.2018.1452328>
- Sehrawat, M., & Giri, A. K. (2015). Financial development and economic growth: empirical evidence from India. *Studies in Economics and Finance*, 32(3), 340-356. <https://doi.org/10.1108/SEF-10-2013-0152>
- Selvarajan, S. K., & Ab-Rahim, R. (2020). Financial integration and economic growth. *Journal of Economic Integration*, 35(1), 191-213. <https://doi.org/10.11130/jei.2020.35.1.191>
- Simola, A., Boysen, O., Ferrari, E., Nechifor, V., & Boulanger, P. (2022). Economic integration and food security—The case of the AfCFTA. *Global Food Security*, 35, 100651. <https://doi.org/10.1016/j.gfs.2022.100651>
- T Adeyele, I. Y. E. W. U. M. I., & Ouedraogo, I. (2019). Effect of Regional Financial Integration and Governance Quality on Economic Growth in ECOWAS (2001-2016). *Journal of Economics and Allied Research*, 3(2), 1-17.
- Tang, A., & Yao, W. (2022). The effects of financial integration during crises. *Journal of International Money and Finance*, 124, 102613. <https://doi.org/10.1016/j.jimonfin.2022.102613>
- Tofan, M., Roman, A., & Bilan, I. (2017). The Proceedings of the International Conference on European Financial Regulation. Retrieved from: Microsoft Word - volum_EUFIRE_2017_docx (uaic.ro)
- Tran, H. H., Le, T. P. T. D., Nguyen, V. T. H., Le, D. T. A., & Trinh, N. H. (2021). The impact of financial integration on monetary policy independence: The case of Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(2), 791-800. <https://doi.org/10.13106/jafeb.2021.vol8.no2.0791>
- Tran, T. V., & Hoang, T. M. (2021). The Effect of International Capital Flows on Corporate Capital Structures: Empirical Evidence from Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(4), 263-276. <https://doi.org/10.13106/jafeb.2021.vol8.no4.0263>
- Van Zyl, L. (2003). South Africa's experience of regional currency areas and the use of foreign currencies. *Regional currency areas and the use of foreign currencies*, 134-39. <https://www.bis.org/publ/bppdf/bispap17o.pdf>
- Xu, M. T., Hu, K., & Das, M. U. S. (2019). *Bank profitability and financial stability*. International Monetary Fund. <https://www.imf.org/en/Home>